MAR 27 2006

S&H Form: (02/05)

REPLY/AMENDMENT FEE TRANSMITTAL

Attorney Docket No.	1580.1004
Application Number	10/091,146
Filing Date	March 6, 2002
First Named Inventor	Yoshinobu IMABEPPU, et al.
Group Art Unit	3621
Examiner Name	AUGUSTIN, EVENS J

AMOUNT ENCLOSED: $120.00

FEE CALCULATION (fees effective 12/08/04)

CLAIMS AS AMENDED	Claims Remaining After Amendment		Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	10	-	20 =	0	X $ 50.00 =	$ 0.00
INDEPENDENT CLAIMS	2	-	3 =	0	X $ 200.00 =	0.00

Since an Official Action set an original due date of March 12, 2006, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month ($120)); (2 months ($450)); (3 months ($1,020)); (4 months ($1,590)); (5 months ($2,160)):	$ 120.00
If Notice of Appeal is enclosed, add ($500.00)	
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee ($130.00)	
Information Disclosure Statement (Rule 1.17(p)) ($180.00)	
Total of above Calculations =	$ 120.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)	
TOTAL FEES DUE =	$ 120.00

(1) If entry (1) is less than entry (2), entry (3) is "0".
(2) If entry (2) is less than 20, change entry (2) to "20".
(4) If entry (4) is less than entry (5), entry (6) is "0".
(5) If entry (5) is less than 3, change entry (5) to "3".

3

METHOD OF PAYMENT

☐ Check enclosed as payment.

☒ Charge "TOTAL FEES DUE" to the Deposit Account No. below.

☐ No payment is enclosed.

GENERAL AUTHORIZATION

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

Deposit Account No. 19-3935
Deposit Account Name STAAS & HALSEY LLP

☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	H. J. Staas	Reg. No.	22,010
Signature	H J Staas	Date	March 27, 2006

©2005 Staas & Halsey LLP

CERTIFICATE OF FACSIMILE TRANSMISSION
I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on 3/27, 2006
STAAS & HALSEY
By: Mary C. McZorn
Date 3/27/06

RECEIVED
CENTRAL FAX CENTER
MAR 27 2006

LAW OFFICES
STAAS & HALSEY LLP

Telephone
(202) 434-1500

1201 New York Avenue, N.W.
Suite 700
Washington, D.C. 20005

Facsimile
(202) 434-1501

FACSIMILE TRANSMISSION

March 27, 2006

TO: U.S. Patent and Trademark Office

ATTN: Examiner Augustin
Group Art Unit 3621

FAX NO.: 571-273-8300

FROM: H. J. Staas

RE: U.S. Application No. 10/091,146
For: METHOD AND SYSTEM FOR FACTORY INSPECTION
Inventors: Yoshinobu IMABEPPU et al.
Confirmation No.: 5916
Filed: March 6, 2002

CERTIFICATE OF FACSIMILE TRANSMISSION
I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on 3/27, 2006
STAAS & HALSEY
By: Mary C. McZorn
Date 3/27/06

OUR DOCKET: 1580.1004

NO. OF PAGES (Including this Cover Sheet) 32

PRIVILEGED & CONFIDENTIAL

The information contained in this communication is confidential, may be attorney-client privileged, and is intended only for the use of the addressee(s). Unauthorized use, disclosure or copying is strictly prohibited. If there are any problems with this transmission, please contact us immediately.

COMMENTS: Reply/Amendment Fee Transmittal (1 pg)
Request for Reconsideration and Withdrawal of Final Rejection as Premature Under MPEP 70607(d); and Response (7 pp)
Exhibits A-I

RECEIVED
CENTRAL FAX CENTER

MAR 27 2006

Docket No.: 1580.1004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Yoshinobu IMABEPPU, et al.

Serial No. 10/091,146 Group Art Unit: 3621

Confirmation No. 5916

Filed: March 6, 2002 Examiner: AUGUSTIN, EVENS J

For: METHOD AND SYSTEM FOR FACTORY INSPECTION

REQUEST FOR RECONSIDERATION AND WITHDRAWAL OF FINAL REJECTION AS PREMATURE UNDER MPEP 706.07(d); AND RESPONSE

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

INTRODUCTION

The Final Office Action mailed December 12, 2005 is submitted to be improper, since non-responsive to arguments presented in the intervening response filed September 19, 2005 traversing the rejections of the initial Office Action mailed April 19, 2005; hence, Applicants request withdrawal of the Final Office Action as premature under MPEP 706.07 (d) and the issuance of a non-final, replacement Office Action.

A petition and fee for a one-month Extension of Time is enclosed, thereby extending the response period to April 12, 2006.

THE FIRST OFFICE ACTION, MAILED APRIL 19, 2005

The first Office Action, at page 3 under the heading "Claim Rejections – 35 U.S.C. § 112", raised the contention that:

> The term "The position or a position data" in claims 9 and 10 renders the claim indefinite. The term " The position or a position data" is not defined by the claim, the specification does not provide a clear and precise definition of the term, and one of ordinary skill in the art would not be reasonably apprised of the meaning of the term.

03/29/2006 EFLORES 00000119 193935 10091146

01 FC:1251 120.00 DA

(Action at page 2, Heading: Claim Rejection – 35 U.S.C. § 112, Item 1, lines 1-4)

APPLICANT'S TRAVERSE OF THE 35 U.S.C. 112 INDEFINITENESS REJECTION IN APPLICANT'S RESPONSE FILED SEPTEMBER 19, 2005 TO THE FIRST OFFICE ACTION

Applicants traversed the §112 rejection of the first Office Action, at pages 5-6 of the intervening Response, asserting:

> The Examiner ... [is]... referred to FIG. 2 of the application and the discussion of same at page 5, line 11-page 6, line 5. Note particularly the discussion at page 5, lines 15-17, that:
>
> > The GPS apparatus 26 receives radio waves transmitted from a plurality of artificial satellites 21 to acquire position data, and transmits the position data of the camera apparatus 10. The encrypting apparatus 28 receives date/hour data of any of a public standard time signal transmitted from the satellite 20 or standard radio-wave transmitting station 22 and a time signal transmitted through a public telephone line 24, and the position data transmitted from the GPS apparatus 26.
>
> (Emphasis added)
>
> Accordingly, it is submitted that the Examiner errs in contending that "the specification does not provide a clear and precise definition of the term... 'position data'." Furthermore, the Examiner's contention that the term "is not defined by the claim" is an incorrect proposition, since the claim need not "define" a term; instead, the legal requirement is that the specification provide a "written description" and that written description affords support for the "terms" when used as recitations of a claim.
> It is submitted to have been shown in the foregoing that the common recitations of "position data" in claims 1 and 12 are in compliance with 35 U.S.C. §112, paragraphs (1) and (2).

APPLICANT'S TRAVERSE OF THE PRIOR ART REJECTIONS OF ITEMS 3 AND 4 OF THE FIRST OFFICE ACTION IN THE INTERVENING RESPONSE

At page 6 of the prior response, Applicants urged that the Examiner's standard of claim interpretation expressed in that first Office Action was clearly wrong, explaining:

> In support of the rejection of Item 3, the Examiner asserts as a standard of claim interpretation that:

> ...the pending claims must be interpreted as broadly as their terms reasonably allow.... The current application is being interpreted as encrypted video signal being transmitted from one geographic location to another via man-made satellite as part of a network, with standard time data included in the signal.
>
> As is apparent, the Examiner's "broad interpretation" improperly omits the "position data"... limitation.
>
> Amended claims 1 and 12, as did claim 9/1 originally, recite that the "subject-of-inspection data..." comprises "data of a position of inspecting apparatus generating the subject-of-inspection data."
>
> None of the references relied upon in the rejections of Items 3 and 4 is cited for teaching subject-of-inspection data which comprises "a position of inspecting apparatus generating the subject-of-inspection data" as specified in each of the independent claims 1 and 12 - - and, it is submitted that none of these references has any such disclosure much less any teaching of the significance of acquiring data as to the position of an inspecting apparatus and including that position data as a part of the "subject-of-inspection data" in accordance with the present invention.

Only claim 11/1 introduces the limitation that "the position data is encrypted." The Examiner thus was further in error for incorporating that dependent claim limitation into his "interpretation" of the independent claims 1 and 12.

THE FINAL REJECTION IS DOUBLY DEFECTIVE, SINCE FAILING TO ADDRESS THE ARGUMENTS OF THE INTERVENING RESPONSE: MPEP 706.07(d)

MPEP 706.07, following the "STATEMENT OF GROUNDS" heading, specifies that:

> ...[T]the final rejection ...also should include a rebuttal of any arguments raised in the Applicant's reply.

(Emphasis added) The Final Rejection fails to address any of the arguments raised in Applicant's Reply much less present any rebuttal of same. Instead, the Final Office Action merely repeats, verbatim, the content of the first Office Action.

For example, the "Response to Argument", Item 1 at page 2 of the Final Rejection, asserts that "the USPTO has fully considered Applicant's arguments filed on 9/19/2005 but has not found Applicant's arguments to be persuasive." In support of that contention, the Final Action merely presents, at page 2, a truncated version of the assertion of the first Office Action, that the term "The

Position or a Position Data" is not defined by the claim ...(etc.)" quoted hereinabove - - and then presents, at pages 2-3, a verbatim repetition of the prior art rejection of pages 2-4 of the first Office Action.

Moreover, the entire content of page 4 – mid-page 6 of the Final Office Action is a verbatim repetition of the totality of the first Office Action, including both the "Claim Rejections – 35 U.S.C. § 112" section of the first Office Action, at page 2 and the "Claim Rejections – 35 U.S.C. § 103" appearing originally at mid-page 2 – mid-page 4 of the first Office Action. Indeed, the Examiner's verbatim repetition of the first Office Action is so pervasive that it continues to assert the rejection of claim 9 - - even though claim 9 was cancelled in the intervening Response.

It is submitted that the Examiner has lost sight of the mandate of MPEP 706.07:

> ...The applicant who is seeking to define his or her invention in claims that will give him or her the patent protection to which he or she is justly entitled should receive the cooperation of the examiner to that end, and not be prematurely cut off in the prosecution of his or her application....
>
> The examiner should never lose sight of the fact that in every case the applicant is entitled to a full and fair hearing, and that a clear issue between applicant and examiner should be developed, if possible, before appeal.

(Emphasis added) Clearly, the Final Office Action violates those standards.

FURTHER TRAVERSE OF ITEM 1 OF THE FINAL OFFICE ACTION: "CLAIM REJECTIONS – 35 U.S.C. § 112"

A. The Final Office Action Ignored the Demonstration, in the Intervening Response, of Support in the Specification for the Meaning of the Term "Position Data"

Applicants respectfully submit, as addressed in detail above, that the intervening Response, at pages 5-6, demonstrated the error of the Examiner's rejection under § 112 and pointed out explicitly wherein the specification provides a clear and precise definition of the term "position data." The Final Office Action altogether ignores that demonstration.

B. Abundant Data Establishes that "Position data" is a Term Well Recognized and Used By Those of Skill in the Art - - Google Search

PAGE 6/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

Exhibits A through I hereto were downloaded and printed from a search conducted on the Google web site - - which produced, in 0.20 seconds, 409,000 "HITS" - - i.e., publication identifications employing "position data." (See Exhibit A).

Exhibit B - - "Analysis of GPS Position Data of Beef Cattle," reports an analysis of the impacts on a stream, of raising cattle in which GPS collars were placed on the cattle and position data points were extracted for each of 16 collars for every five minutes for 18 days, yielding a huge volume of data points requiring special analysis techniques to derive useful results. Related data was collected, including "weather data such as temperature, relative humidity and rainfall at an hourly interval." (Page 2) "Selected features of the pastures, including the fences, stream banks," and the like were collected and stored into the database for a "particular data collection." (Pages 3-4). Weather data then was collected and stored, "integrated with the position data from the collars." (Page 6). (Emphasis added, throughout).

Exhibit B - - at page 7, following the heading "Using GIS for Data Analysis", reports "the position data can be analyzed to determine poor and good grazing areas within pastures."

Exhibit C - - "Traffic Information System by Position Data from Moving Terminals," shows that the terminology, "position data" is employed as well in traffic information systems.

Exhibit D - - "Assisted-GPS Provides Faster Data Acquisition," reports that "GPS" is a well known satellite-based positioning system which provides "information about the current time, positions of all the satellites and correction data." The article explains how it is possible "to extract position information from the network..." - - and treats "position information" as synonymous with "position data". (See Exhibit D at page 2, the first column; terms emphasized by underlining).

Exhibit E - - "Current GPS Position Variation Data Display, Exhibit F - - "AIDJEX Wind, Current, and Camp Position Data" and Exhibit G - - the "Discoverer Position Data", bear further evidence to the fact that those of ordinary skill in the art surely understand the meaning of "position data".

Exhibit H - - "Storming Media – Pentagon Reports" provides an abstract of "Operation Heli-STAR – Aircraft Position Data" affording further evidence that at least the Department of Defense of the U.S. Government recognizes the term "position data".

C. USPTO Recognition Of "Position Data" - - Exhibit I - - Results of a search in the U.S. Patent and Trademark Office web site for U.S. patents issued from 1976 to the present identified 20,730 patents employing the term "position data" - -providing irrefutable evidence that the U.S. Patent and Trademark Office recognizes the well-known and accepted meaning of "position data".

D. Conclusion

It is respectfully submitted that the Examiner's opinion that the words "position data" do not have a "plain meaning" to "those of ordinary skill..." is untenable, and is refuted by the abundant evidence cited hereinabove that those words have a "plain meaning".

Further, it is submitted to have been shown in the foregoing that the common recitations of "position data" in claims 1 and 12 are in compliance with 35 U.S.C. §112, paragraphs (1) and (2).

THE EXAMINER'S ADMISSION OF NOT HAVING EXAMINED THE ACTUAL RECITATIONS OF THE PENDING CLAIMS IS A FATAL DEFICIENCY OF THE FINAL OFFICE ACTION

The Examiner expressly states that he does not understand the meaning of "position data" and explains:

> As such, the current application is being interpreted as encrypted video signal being transmitted from one geographic location to another via man-made satellite as part of a network, with standard time data included in the signal.

(Item 1 of Final Action at page 4) It is submitted that the Examiner errs.

Applicants do teach encryption and satellite communications; however, as shown above, the independent claims 1 and 12 do not recite the use of an encrypted video signal. Clearly, there is no basis for the Examiner's introduction of "encrypted video signal" as being the subject matter disclosed and claimed in the application, including claims 1 and 12.

Moreover, the Examiner is not following his own contention that "the pending claims must be interpreted as broadly as their terms reasonably allow." (Item 5 of the Action at page 4). To the contrary, the Examiner imposes a narrowing interpretation by introducing his "encrypted video signal being transmitted..." as defining the invention herein. As noted above, the Examiner imported

limitations from the specification and claim 11 into the independent claims 1 and 12, which is altogether improper, by "Horn Book" law.

THE EXAMINER ADMITS IN ITEM 6 OF THE OFFICE ACTION THAT THE REFERENCES RELIED UPON IN THE REJECTION OF CLAIMS 1-7, 9-10 AND 12 IN ITEM 5 OF THE FINAL OFFICE ACTION DO NOT TEACH AN "ENCRYPTED VIDEO SIGNAL"

Despite having gone to lengths to explain his "interpretation" of the claimed subject matter as relating to an "encrypted video signal being transmitted...," the Examiner concedes in Item 6 at page 6 of the Office Action that:

> Focke et al. and Kihara et al. do not explicitly describe a system in which data ...[sic-is]... encrypted.

(Action at page 6)

Accordingly, the principal references relied upon in the rejection of claims 1-7, 9-10 and 12 (the majority of the claims), in Item 5 of the Final Office Action, fail to support the grounds of rejection of those claims, as interpreted by the Examiner.

The Examiner expressly relies on Roop et al. as teaching that feature in the rejection of claims 8 and 11 in Item 6 of the Action at pages 5-6 -- but Roop is not relied upon in Item 5 in the rejection of claims 1-7, 9-10 and 12.

It follows that the rejection of claims 1-7, 9-10 and 12 of item 5 is fatally defective.

CONCLUSION

The final Action is both premature and fatally defective and should be withdrawn and a new Action issued. Such action is earnestly solicited.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: March 27, 2006

By: [signature]
H. J. Staas
Registration No. 22,010

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

CERTIFICATE OF FACSIMILE TRANSMISSION
I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on 3/27, 2006
STAAS & HALSEY
By: Mary C. McZorn
Date 3/27/06

EXHIBIT A

Sign in

Google

Web Images Groups News Froogle Local more »

"position data" Search Advanced Search Preferences

Web

Results **1** - **10** of about **409,000** for "**position data**". (0.20 seconds)

Data Services
provides high precision geocentric **position data** for the Sun, Moon, major planets and selected bright stars. Topocentric Positions of Major Solar System ...
aa.usno.navy.mil/data/ - 17k - Feb 16, 2006 - Cached - Similar pages

[DOC] Position Data Questionnaire
File Format: Microsoft Word - View as HTML
Position Data Questionnaire. This questionnaire was designed to collect job content data for preparing the documentation necessary for a classification ...
www.princeton.edu/hr/comp/pdq.doc - Similar pages

Princeton University Human Resources **Position Data** Questionnaire
Position Data Questionnaire. Last Updated: 06/08/01. Date Prepared: ___________. This questionnaire was designed to help describe positions at ...
www.princeton.edu/hr/comp/pdq.htm - 11k - Cached - Similar pages
[More results from www.princeton.edu]

AIDJEX Wind, Current, and Camp **Position Data**
AIDJEX Wind, Current, and Camp **Position Data**. Boulder, CO: National Snow and Ice Data Center/World Data Center for Glaciology. Digital media. ...
nsidc.org/data/g02167.html - 9k - Cached - Similar pages

Current SEC GPS Position Variation Data Display
[Current Magnetometer H Data] [Current S4 Data] [Current Magnetometer XYZ Data] [Current Ionogram] [Cornell **Position Data**] ...
www.spacenv.com/secbio/BLO/pos/ - 2k - Cached - Similar pages

ACC2000: How to Programmatically **Position Data** Labels in Microsoft ...
When you create a chart by using the Microsoft Access Chart Wizard, you do not have the option to place data labels on the chart. You can, however, add data ...
support.microsoft.com/?kbid=230061 - Similar pages

Lookup a **Position Data** History Summary
To view another **position's data** history, select Return to Search. ... View the general **position data**. **Position data** history summary page ...
www.uscg.mil/hq/psc/cghrms/global_ workforce_inquiry_solution/pos_data_hist_summ.html - 16k - Cached - Similar pages

Discoverer **Position Data**
The **position data** provided here is known as "psu" data, which is at a time resolution of 15 minutes. The Discoverer Navigation Data archive has finer ...
cimss.ssec.wisc.edu/csp/DiscoDat/discopos.htm - 3k - Cached - Similar pages

University of Windsor - Faculty Positions - Leddy Library Tenure ...
Tenure-Track **Position** - **Data** Librarian. The University of Windsor's Leddy Library invites applications for a tenure-track Data Librarian position, ...

Sponsored Links

Data Position
Land the Right Job on Monster - Search Listings & Get Career Advice
www.Monster.com

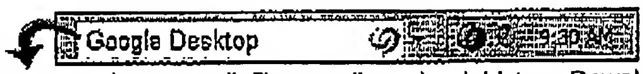
Data Entry Work $984/day
Type from home Get paid $400-950 Daily **Data** entry workers needed. af
www.**Data**EntryPro.com

www.uwindsor.ca/units/vpacademic/faculty_jobs/ facjobs_v2.nsf/0/1cd3c94e20806f9685256f5c005f3f79?OpenDocument - 80k - Cached - Similar pages

ALS ID-BPM data
If it still fails, you can update manually by hitting reload or alt-reload (option-reload on a Mac). beam **position data** (Please be patient while loading) ...
www-als.lbl.gov/als/status/idbpm.html - 8k - Cached - Similar pages

Try your search again on Google Book Search

Gooooooooogle ▶
Result Page: **1** 2 3 4 5 6 7 8 9 10 **Next**



Free! Instantly find your email, files, media and web history. Download now.

"position data" Search

Search within results | Language Tools | Search Tips | Dissatisfied? Help us improve

Google Home - Advertising Programs - Business Solutions - About Google

©2006 Google

EXHIBIT B

Analysis of GPS Position Data of Beef Cattle

Benjamin K. Koostra, Carmen T. Agouridis, and Stephen R. Workman
Biosystems and Agricultural Engineering
University of Kentucky
Lexington, Kentucky

Abstract

Water quality and nutrient management research at the University of Kentucky related to beef cattle interaction with streams involved the collection and analysis of GPS position data. Typical data collection periods consisted of a position data point for each of 16 collars every five minutes for 18 days. Because of the volume of data points, multiple geodatabases were designed to organize and store the spatial data. Custom scripts and analysis techniques were developed to determine distance and location relationships using ArcGIS. The data were formatted and made available for research extension purposes using ArcPublisher.

Introduction

Cattle production is a major component of Kentucky's agricultural economy, accounting for approximately 15% of the total agricultural sales in 2000. There are over 2.26 million beef cattle and calves in the state making Kentucky the number one beef producer east of the Mississippi River (KASS, 2001). With such a large portion of Kentucky's agricultural industry committed to the production of cattle, the environmental impacts of these grazing animals are potentially significant. Currently 75% of the surveyed river miles in Kentucky do not fully support swimming use because of high fecal coliform levels. The U.S. Environmental Protection Agency (EPA) Office of Water (1998) noted that the most common pollutants to Kentucky's rivers included fecal coliform bacteria and siltation. In their 1998 Report to Congress, the EPA's Office of Water noted that the leading source of river and stream impairment was agricultural activity with the states reporting that 59% of the documented water quality problems were from agriculture.

Research into the effects of cattle grazing on stream water quality has been well documented in the western portion of the United States; because, the arid environments of the western United States have been viewed as more fragile than that of the humid, temperate regions of the eastern U.S (U.S. Department of Interior, 1994 as reported in Belsky et al., 1999; Clark, 1998). Thus, the water quality impacts of grazing cattle in a humid, temperate environment such as that of Kentucky may differ significantly from those witnessed in the arid West. One approach to minimizing the impacts of cattle grazing on stream quality is through the use of a program of Best Management Practices (BMPs). The purpose of BMPs is to reduce nonpoint sources of pollution. For

PAGE 12/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

reducing the impacts of cattle grazing on the health of the stream, both structural control BMPs and cultural control BMPs are ideal. Structural control BMPs modify the transport of the pollutants to waterways (e.g., riparian buffers and vegetated filter strips) while cultural control BMPs are designed to minimize pollutant inputs to waterways through land management practices such as managed grazing (McFarland et al., 1999). By using a program of BMPs (i.e., multiple BMPs), the achievement of water quality goals is more likely since the effectiveness of each BMP varies depending upon the pollutant(s) of concern.

Riparian Area Grazing Research at UK

Cattle grazing research conducted by the Biosystems and Agricultural Engineering Department at the University of Kentucky is primarily focused on determining whether cultural BMPs (alternate water sources, alternate shade sources, etc.) will alter cattle behavior. The research is also attempting to assess the effect of the cultural BMPs on stream water quality. The project area consists of two replications of three pasture scenarios: implemented BMPs with a fenced riparian area that limits cattle access to the stream, BMPs with free access to the stream, and free access with no BMPs (control scenario). Figure 2 is a map of the project area showing the pasture scenarios in two replications.

Data are being obtained for the project to determine the effects of the cattle on the stream and the effectiveness of the BMPs. Water samples are collected bi-monthly at multiple locations through the project area. The samples are analyzed for eleven parameters including nitrogen, phosphorus, total suspended solids, and biochemical oxygen demand. Monthly surveys are performed of permanent cross-sections to monitor streambank erosion and monthly photographs are taken to document visual changes of the stream. An automated weather station is located near the project area and records weather data such as temperature, relative humidity, and rainfall at an hourly interval.

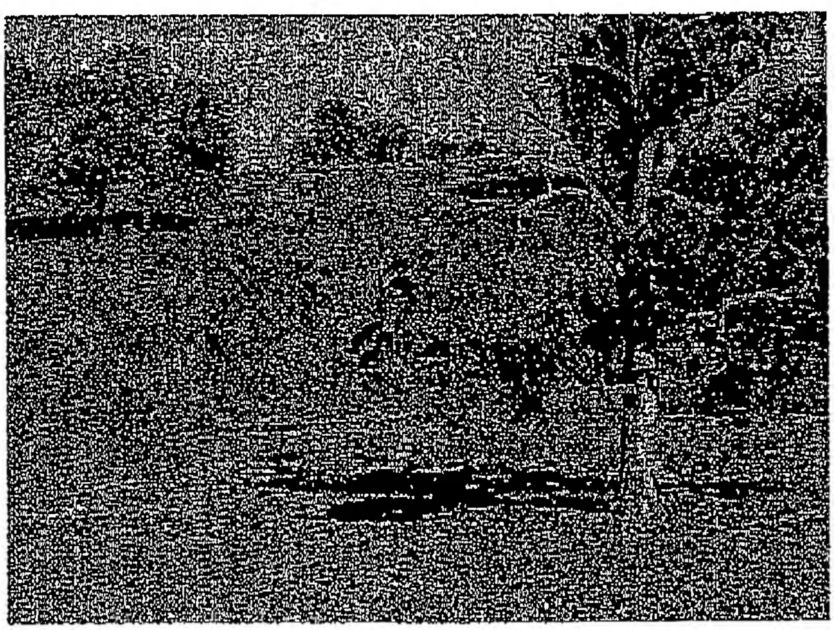


Figure 1 - Photograph of a portion of the grazing project area.

A survey of the project area was performed using a Real-time Kinematic Global Positioning

PAGE 13/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY

System (RTK-GPS) to map selected features of the pastures including the fences, gates, trees, waterers, stream banks, and the stream cross-section benchmarks. The survey allowed the creation of an accurate base map to be used in the GIS analysis of the data (Fig.2).

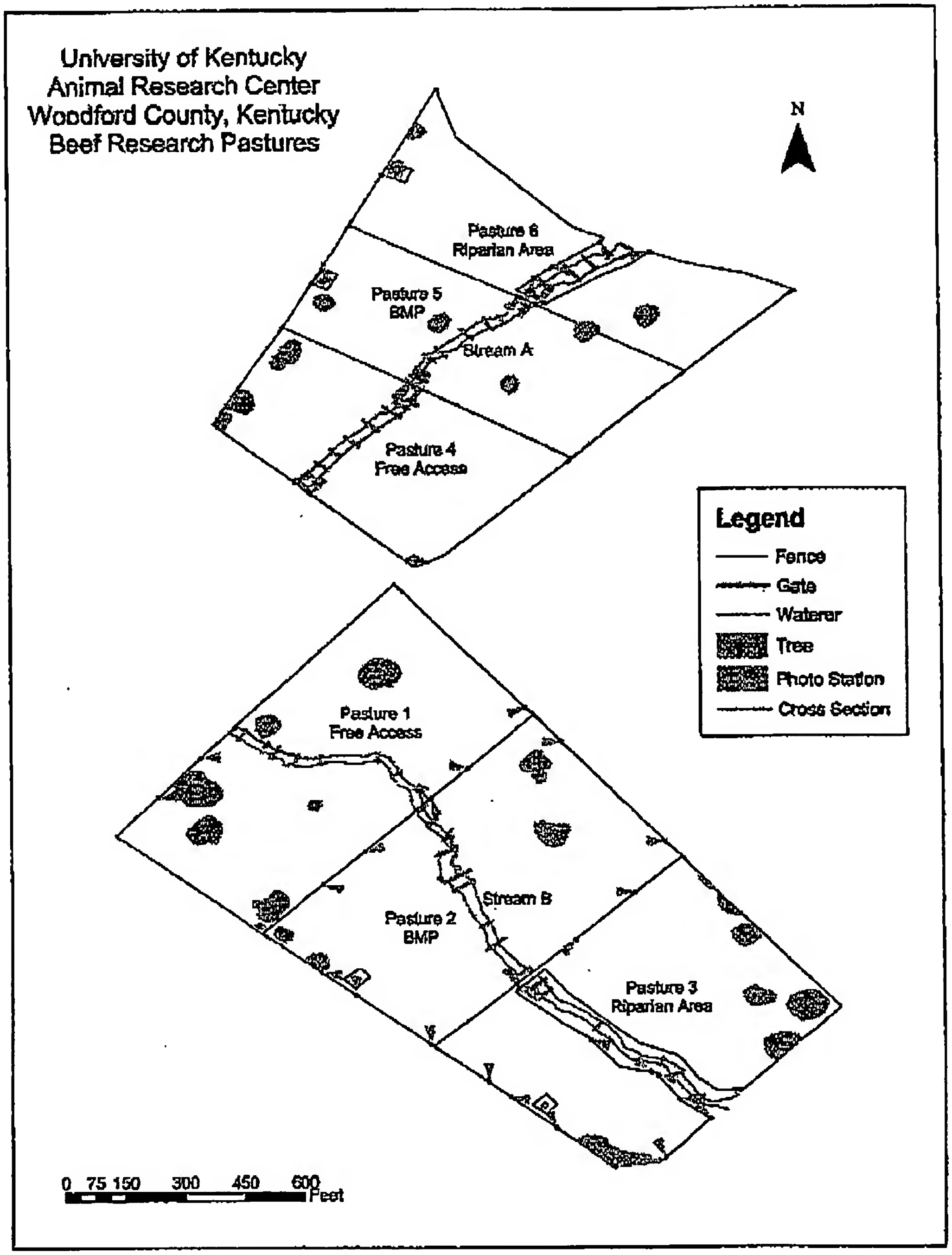


Figure 2 - Map of the project area.

PAGE 14/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY

Use of GPS Collars to Track Cattle Position

The University of Kentucky has used is utilizing GPS collars (Fig. 3) to track cattle positions in the pastures since the early 1990s (Turner, 2002). The collars consist of an eight-channel GPS receiver, GPS antenna, radio beacon transmitter, activity sensors, data storage and a battery all attached to an adjustable leather collar. The collars can determine positions at intervals of five minutes or greater with a total on-board memory capacity of 5,208 positions. The stored information includes the collar ID, date, time, geographic position (latitude and longitude), elevation, dilution of precision, and the fix status (2D or 3D).

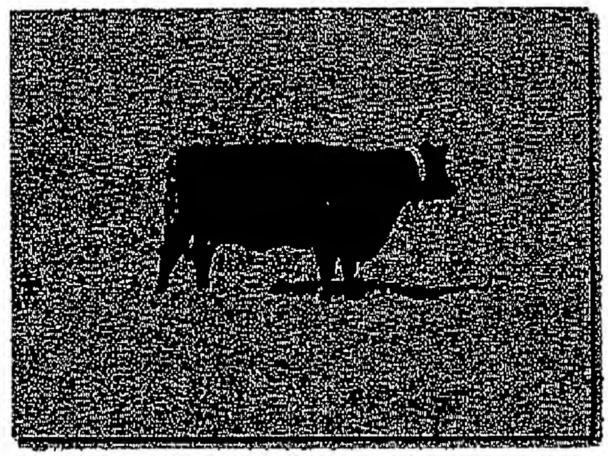


Figure 3 - GPS collar on a cow.

The data collected by the collars are downloaded onto a PC and post-processed to achieve differential correction using a software application provided by the collar manufacturer. This application outputs the corrected data files in multiple formats. One of the formats, a comma delineated text file, was selected to be imported into ArcGIS for analysis.

Using ArcGIS for Data Management and Analysis

ESRI's ArcGIS package was selected for our project as the software solution for data management, integration, and analysis based on the software's scalability, functionality, and ability for customization. The capability to create custom scripts and tools using Visual Basic for Applications for our specific analysis tasks allows our data to be more consistent by automating tasks while increasing efficiency.

Creating and Importing Into a Geodatabase

To store the GPS collar data, geodatabases are used to consolidate data from the individual collars into a single database for a particular data collection period. For example, 17 collars are deployed for a period of 18 days. Each of the data files collected from the collars is added to the geodatabase created for that 18 day collection period. To maintain consistency between databases, an automated script is used to create the geodatabase using predetermined attributes and data formats. For our specific analytical needs and to conserve resources, only selected data attributes from the data file created by the post-processing software are imported into the newly

PAGE 15/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY

created geodatabase. Also, attribute names are modified based on naming preferences of the project personnel.

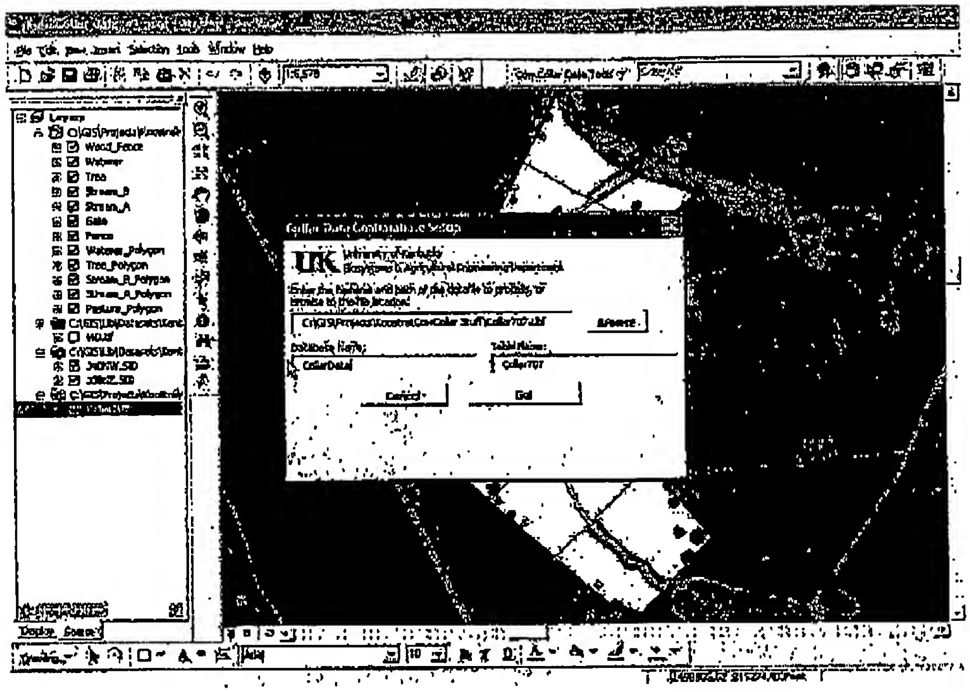


Figure 4 - Dialogue box for new geodatabase setup.

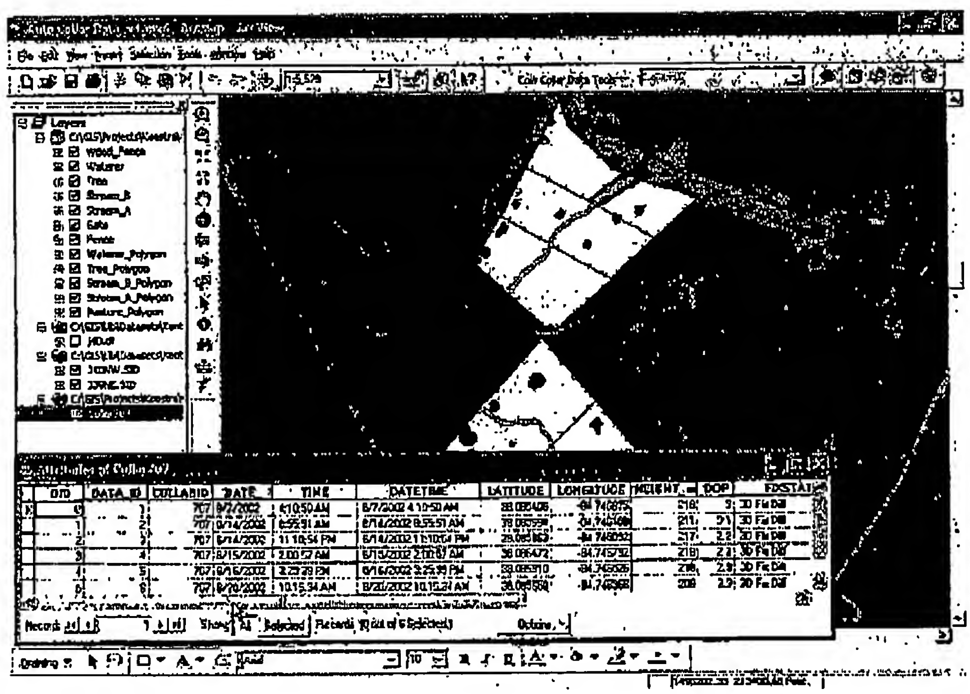


Figure 5 - Custom toolbar and example dataset.

PAGE 16/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY

In ArcGIS, a custom toolbar was created to launch the scripts created to perform the tasks associated with analysis of the GPS collar data. One of the tools opens a dialogue box prompting the user to create a new geodatabase (Fig. 4). Another tool launches a script that "cleans" the data file by looking for points with null positions and imports the "cleaned" file into the user-selected geodatabase.

Integrating Weather Data

Since weather information is useful in the analysis of the factors that affect cattle movement, selected weather parameters collected near the project site are integrated with the position data from the collars. Because the weather data are collected at hourly intervals and the GPS collar positions are collected at five-minute intervals, a custom script was created to integrate the data. The weather data are imported into a table and the time attribute for the collar positions are converted to an hourly format. For example, positions collected between 6:30:00 am and 7:29:59 am are assigned the hour 0700. Similarly, positions collected between 3:30:00 pm and 4:29:59 pm are assigned the hour 1600. The weather data for air temperature and relative humidity are then added as attributes to the geodatabase feature classes created for each collar.

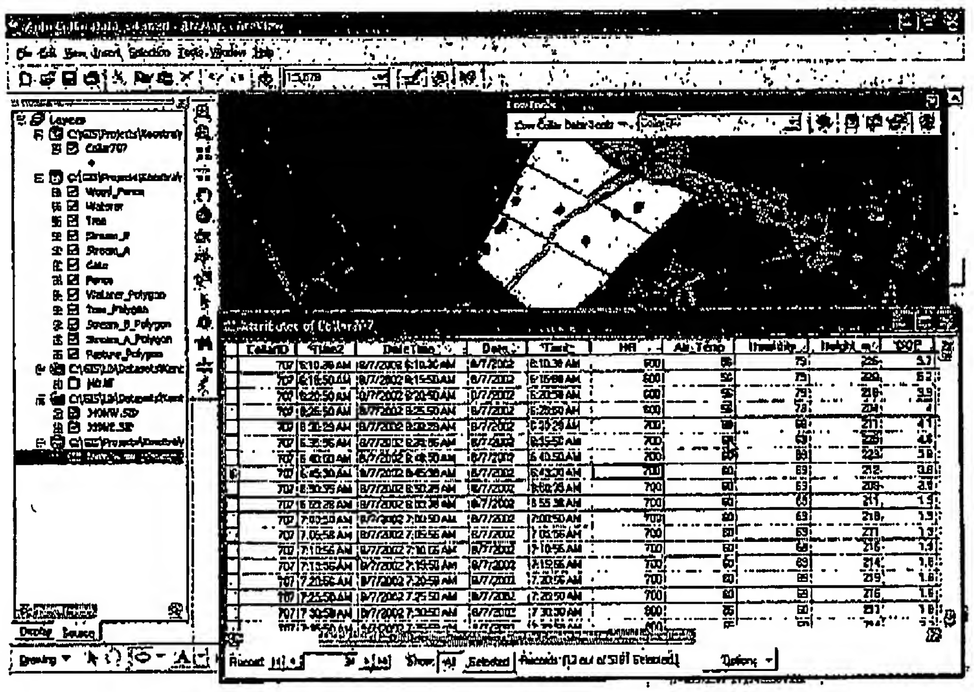


Figure 6 - Attribute table with integrated weather data.

PAGE 17/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY

Using GIS for Data Analysis

One of the common analysis techniques that is used for the project is determining a percentage of time that the animals are at or near a given feature (i.e. stream, stream crossing, waterer, supplemental feeding area, trees, etc.). Typically this task is performed by making a query in ArcMap using the "Select by location" feature to determine the quantity of data points (positions) located within distance buffers of the features of interest. The quantity is then compared to the total number of points resulting in percentages of time that the cattle are at or near the selected feature. For example, this information is essential in determining how much time the animals spend in or very near the stream.

A major part of the research being performed involves determining the influence of BMPs on cattle behavior specifically in relation to cattle interaction with a stream. To analyze our data, a custom script was created to determine the distance from each point to the stream. Factors that influence cattle position and movement can be investigated to determine if a statistical correlation exists between the presence, absence, or degree of the factor. For example, air temperature has the potential to affect the cattle positions by influencing the animal to seek a shaded area or to attempt to use the stream for cooling.

Additional uses of this information include determining pasture utilization by cattle. For example, the position data can be analyzed to determine poor and good grazing areas within pastures. The producer then has the information needed to delineate the poor areas as a management zone and potentially use BMPs or pasture improvements to increase the cattle utilization of these management zones.

Displaying Data

The initial methods to display the data obtained from this project for dissemination has been the creation of static maps and graphics using Adobe Acrobat .pdf format. This format allows for a relatively standard compatibility with a wide range of interested parties. Initial plans for the project included using ESRI's ArcPublisher to create more dynamic viewing experience by allowing constituents to zoom and pan within a map as well as turn on and off various data layers. Based on the size of the geodatabases, this method of viewing the data was not selected for implementation.

A future option for the project is implementing ArcIMS through the project website as an interactive method for publishing the collected data. Users would have the capability to view, query, and interact with the data on a web browser while maintaining a central, secure storage location for the data. The major limitation of this type of method is the Internet connection speed limitations of users that would potentially access the data.

PAGE 18/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY

Conclusion

The use of ArcGIS for data management, integration, and analysis of GPS collar data allows for consistency and efficiency by using custom scripts and tools. The results of the analysis contribute to the understanding of the influence of BMPs on cattle behavior and stream water quality.

References

Belsky, A.J., A. Matzke, and S. Uselman. 1999. Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States. Journal of Soil and Water Conservation 54(1): 419-431.

Kentucky Agricultural Statistics Service (KASS). 2001. Kentucky Agricultural Statistics 200-2001.

McFarland, M.J., A.M.S. McFarland, and J.M. Sweeten. 1999. Effectiveness of BMP Programs to Control NPS Pollution from Land Application of Manure. ASAE International Meeting, Toronto, Ontario: July 18-21.

Turner, L.W., M.C. Udal. B.T. Larson, and S.A. Shearer. 2002. Monitoring Cattle Behavior and Pasture Use with GPS and GIS. Canadian Journal of Animal Sciences 80(3): 405-413.

United States Environmental Protection Agency (EPA): Office of Water. 1998. National Water Quality Inventory: 1998 Report to Congress. Chapter 3.

PAGE 19/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

Acknowledgements

The authors recognize Teri C. Dowdy, a Geographic Information Systems Specialist in the Biosystems and Agricultural Engineering Department, for her efforts in programming and development of custom scripts for this project.

Authors

Benjamin K. Koostra, PE
Engineer Associate
Biosystems and Agricultural Engineering
University of Kentucky
128 CE Barnhart Building
Lexington, KY 40546-0276
859.257.3000 x 121
859.257.5671
bkoostra@bae.uky.edu

Carmen T. Agouridis
Engineer Associate, PhD Candidate
Biosystems and Agricultural Engineering
University of Kentucky
128 CE Barnhart Building
Lexington, KY 40546-0276
859.257.3000 x 207
859.257.5671
cagourid@bae.uky.edu

Stephen R. Workman, PhD
Associate Professor
Biosystems and Agricultural Engineering
University of Kentucky
128 CE Barnhart Building
Lexington, KY 40546-0276
859.257.3000 x 105
859.257.5671
sworkman@bae.uky.edu

Traffic information system by position data from moving terminals

2000-02-28

EXHIBIT C

Click here to start

Table of Contents

Email: hjelm@w3.org

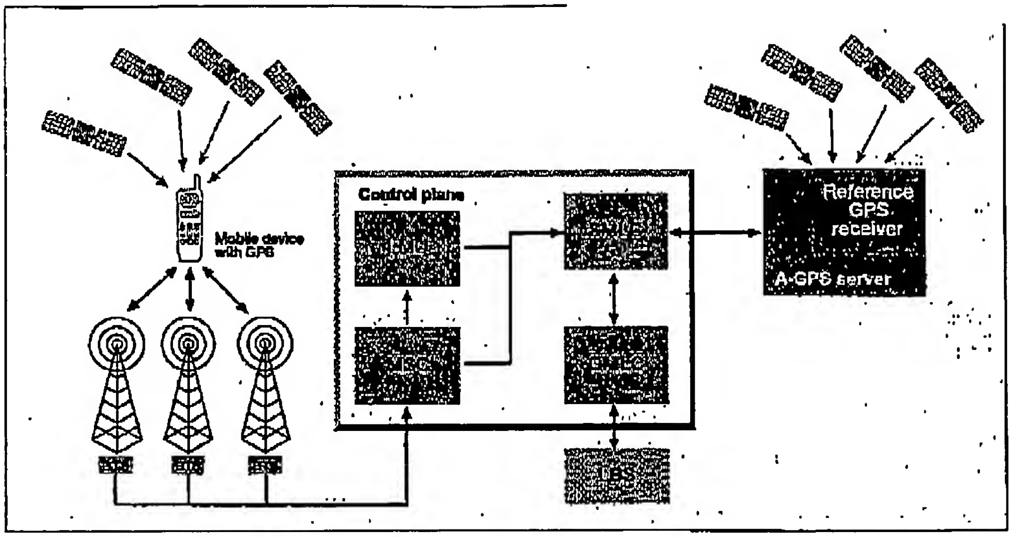
Home Page:
http://www.w3.org/Mobile/posdep/

Other information:
Traffic information system by position data from moving terminals. Yoichiro Tomari.

Assisted-GPS provides faster data acquisition

EXHIBIT D

By Stefan Lux
GPS Application Engineer
Atmel Corp.



The control-plane solution exploits the capabilities of the wireless network and signaling layer to extract position information from the network or a time-synchronization mechanism.

GPS is a satellite-based positioning system that consists of at least 24 satellites on six intermediate circular orbits. Each satellite continuously sends a signal, such as information about the current time, positions of all the satellites and correction data.

The GPS receiver uses this information to calculate the distance between the satellite and itself. To determine the position, a GPS receiver must receive signals from at least three satellites. The time required to first calculate the position–time to first fix (TTFF)–depends on the acquisition sensitivity of the receiver, the number of visible satellites, the signal strength of the individual satellites, the constellation of the satellites in the sky, and the receiver's view of the sky.

In unfavorable situations, it can sometimes take several minutes to calculate this position. This is not acceptable for local-based services (LBS) or emergency calls, as a much faster acquisition time is required. Due to this, assisted GPS (A-GPS) was developed to resolve the TTFF issue.

The goal of A-GPS is to either improve the TTFF or to make a position calculation possible when it wouldn't be otherwise. In the last few years, diverse concepts and solutions were developed under the keyword A-GPS, many of which are protected by patents. These different concepts can be classified into aided GPS and assisted GPS.

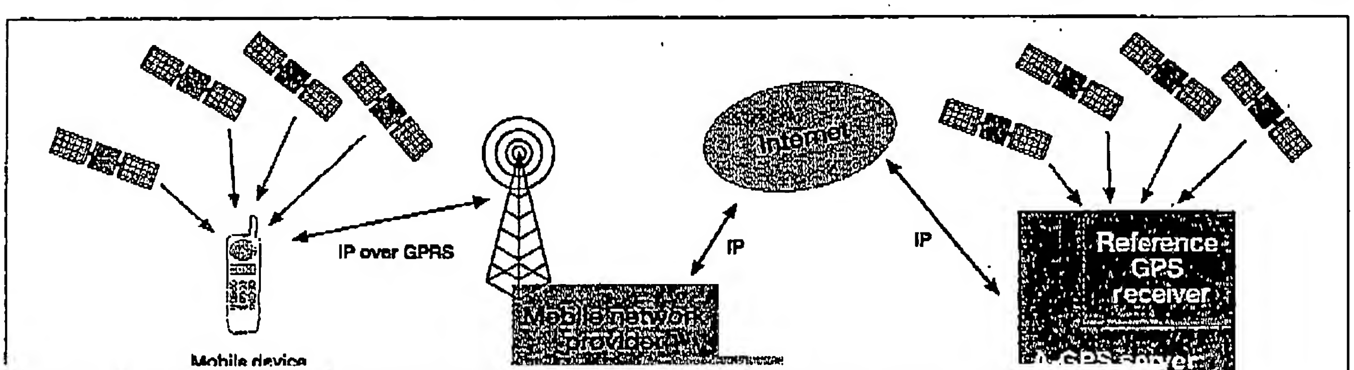
Aided GPS improves the TTFF by transmitting the almanac, ephemeris, a coarse position and a time over a mobile network. This aiding data can be transmitted over the control or user planes of the mobile network. Position calculation mostly takes place in the mobile device.

Assisted GPS makes it possible to calculate the position with a fast TTFF using additional information such as time synchronization, Doppler and frequency. This information can be extracted by using the infrastructure of the mobile network control plane. A mechanism such as advanced forward link trilateration (AFLT) determines the position of the mobile device. Here, signals sent out by the mobile device and received from several mobile base stations are measured. Position calculation is mobile-device-based or network-based.

Mobile-device-based solutions receive the additional A-GPS data over the mobile network, but position calculation takes place in the mobile device. That means an LBS or an emergency call service must request the current position from the mobile device.

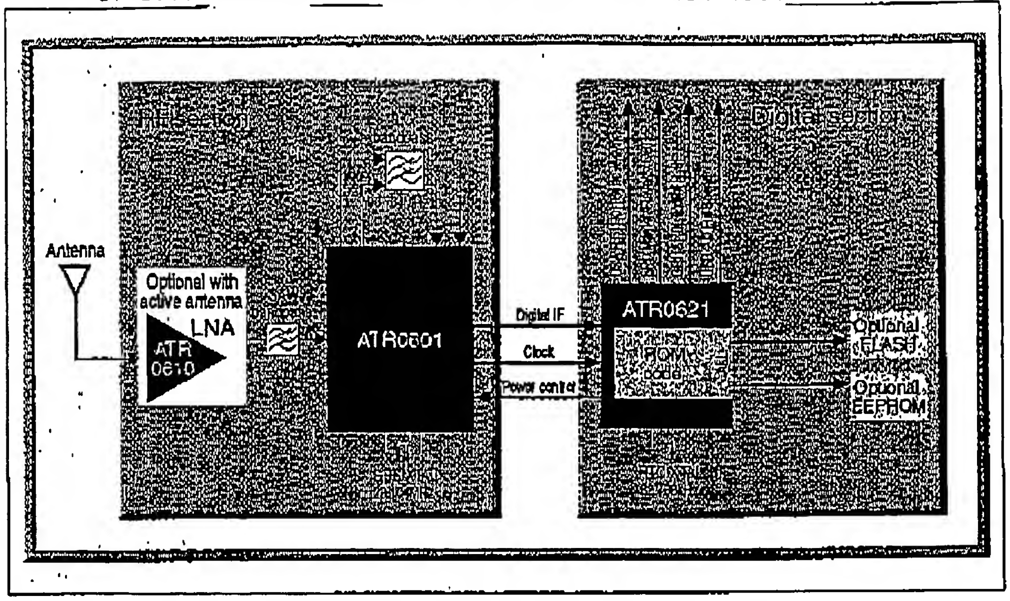
With network-based A-GPS solutions, the mobile device sends raw GPS data to a GPS-assistance server on the mobile network. The network server can directly calculate the position with additional A-GPS information. After calculation, position data is transmitted to the receiver. An LBS or emergency call service can access the position database of the network server directly.

A-GPS benefits include TTFF improvement, higher sensitivity and maximum availability due to the receiver not having to download and decode navigation data from GPS satellites. Hence, the receiver can spend more time and processing



PAGE 22/32 * RCVD AT 3/27/2006 6:28:31 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID: * DURATION (mm-ss):11-08

BEST AVAILABLE COPY



Antaris 4 includes the RF receiver IC ATR0601, LNA ATR0610 and baseband IC ATR0621.

power tracking the GPS signal.

The control-plane solution exploits the capabilities of the wireless network and signaling layer to extract position information from the network or time synchronization.

Both CDMA and GSM cellular communities have developed standards for control-plane A-GPS messaging and defined performance metrics for the user equipment. These standards describe how position information from the wireless network can be extracted and used.

When using A-GPS over a control plane, the location measurement unit extracts position information with signaling measurements from the mobile device, several base transceiver stations and the mobile switching center. The service mobile location center collects this network-based position data and the data from an A-GPS server with several reference GPS receivers, and transmits this assisted data to the mobile device, enabling it to calculate an accurate position. The LBS can request this position data over a gateway mobile location center.

With the control-plane approach, it is possible to calculate the position in network- or mobile-device-based systems.

The installation of a control-plane-based A-GPS is complex and expensive because additional hardware is necessary to handle complex protocols. But such an A-GPS will be most suitable for position calculation.

A user-plane solution is an A-GPS system where communication between a server and mobile device runs over an all-IP data connection that is independent of the wireless signaling layer (e.g. IP over GPRS).

The corresponding standard was developed by the Open Mobile Alliance and is called secure user-plane location.

When using A-GPS over a user plane, the mobile device with GPS receiver is connected via IP with the A-GPS server over the user plane of the mobile network. The A-GPS server collects aiding data such as almanac and ephemerides from several reference GPS receivers. Upon request, the server sends this data to the mobile device. The GPS receiver of the mobile device uses this aiding data for position calculation.

The LBS can request the position information from the mobile device and the data will be transmitted via the IP connection.

This approach is less costly than that over the control plane because the mobile network provider doesn't need special hardware. Also, it is suitable for all mobile standards.

Atmel's Antaris 4 GPS chipset includes an RF receiver chip, LNA and a baseband IC. This chipset is a joint cooperation with u-blox.

The high-gain LNA was designed for GPS applications using Atmel's SiGe technology and features a noise figure of 1.6dB, high gain (> 16dB), low-power design (< 10mW), an integrated power-up control and 50Ω output matching.

The GPS RF receiver chip has good RF performance combined with a noise figure of < 6.8dB, jamming immunity and power consumption of < 40mW. It includes a frequency synthesizer, an IF amplifier with AGC and a 1.5bit ADC. Produced using a BiCMOS process, the receiver supports XTOs and TXCOs. The SAW bandpass and discrete IF filters (96.764MHz) are externally connected to the RF receiver.

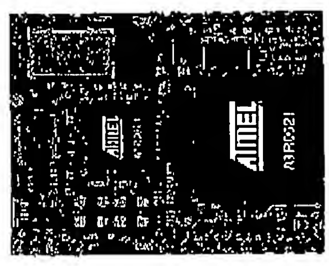


Figure 4: The GPS RF receiver chip has good performance and a noise figure of < 6.8dB.

The GPS baseband processor ATR0621 includes a 16-channel GPS correlator and is based on the ARM7TDMI processor core. It has 128KB of internal SRAM and 384KB internal ROM, which includes full GPS firmware licensed from u-blox to perform the basic GPS operation, including tracking, acquisition, navigation and position data output. For normal position/velocity/time applications, there is no need for off-chip flash memory or ROM. The firmware supports the possibility of storing the configuration settings in an optional external EEPROM. For customer-specific applications, a software development kit is available. The baseband has various interfaces for flexible system integration and offers various power-saving modes.

The navigation result is output through the USART or USB interfaces, using either the international NMEA (0183) protocol or the proprietary u-blox protocol.

The Antaris 4 GPS chipset provides -158dBm sensitivity without compromising navigation accuracy and supports advanced WAAS/EGNOS. It also provides good acquisition performance and multipath suppression, and has a 4Hz update rate and low power consumption. It enables system solutions with minimum BOM cost.

The chipset provides full A-GPS functionality. It is useful for applications requiring instant position fixes, such as a mobile asset tracking device. The aiding data supplied from an external source such as an aiding server reduces the TTFF to just 4s. Aiding parameters provide ephemeris, almanac, coarse position, clock drift and time, satellite status, and if available, a precise time-synchronization signal. This aiding data improves the TTFF by providing the GPS receiver with immediate knowledge of the satellites to search for and track.

The Antaris 4 protocol has special messages for A-GPS to exchange the aiding data with an A-GPS server.

Depending on the aiding data and time synchronization, the performance of the chipset will be improved in the following ways:

BEST AVAILABLE COPY

GPS Performance

Maximum update rate		4Hz
Accuracy	Position	2.5m CEP[1]
	with DGPS/SBAS[2]	< 2m CEP[1]
Startup time	Aided start Reduced cold start	< 4s
	Hot start	< 3.5s
	Warm start	33s
	Cold start	34s[3]
Signal Reacquisition		< 1s
Dynamics		< 4g
Sensitivity	Tracking	
	Normal mode	-146dBm
	High sensitivity	-150dBm
	Weak signal tracking	-158dBm[4]

1 CEP = Circular Error Probability
2 SBAS (WAAS or EGNOS) satellites can be used for navigation
3 Fast acquisition mode
4 With additional SuperSense software

Antaris 4 chipset provides full A-GPS functionality useful for applications requiring instant position fixes.

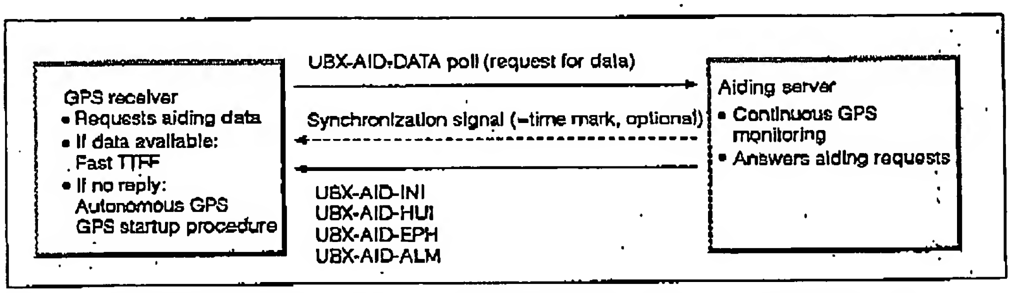


Figure 6: The protocol has special messages for A-GPS to exchange the aiding data with an A-GPS server.

- Typical 34s TTFF for a cold start if no aiding data is available;
- Typical 15-20s TTFF for an aided start with no time synchronization;
- Typical 12s TTFF for an aided start with time synchronization better than 8ms;
- Typical 4s TTFF for an aided start with time synchronization better than 400µs.

Likewise, the sensitivity improves from -142dBm to -145dBm because the receiver can perform reacquisition.

With A-GPS, new applications such as LBS or E911 become possible.

The use of assistance data can result in faster acquisition of weaker signals and facilitate navigation solutions that would not otherwise be possible. Synchronized time assistance is a major benefit of A-GPS–however, it is complicated and dependent on the system design.

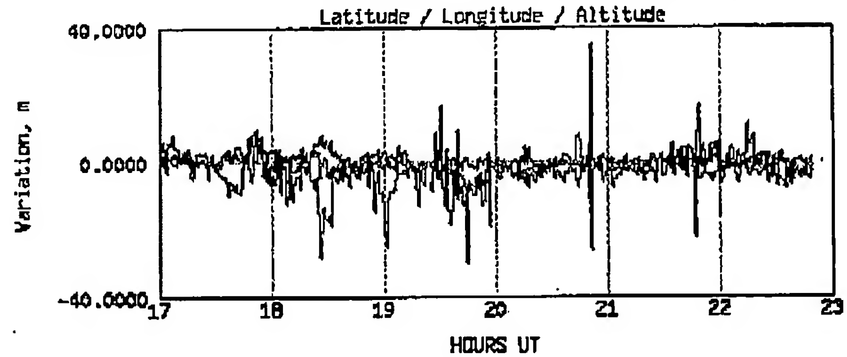
Two approaches are available for A-GPS: A-GPS over the user plane for fast, low-cost integration; and A-GPS over the control plane for improved performance. □

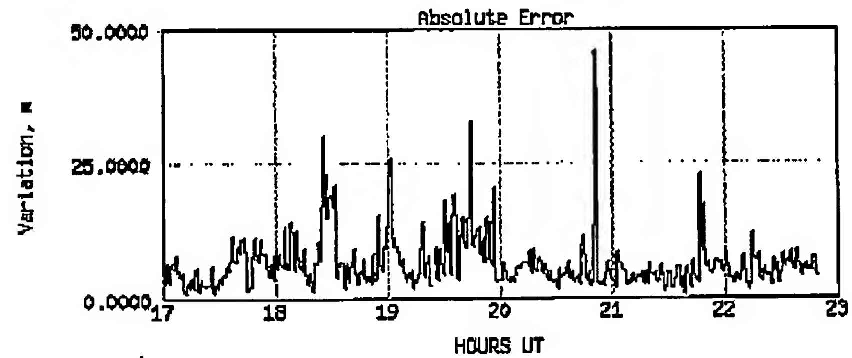
BEST AVAILABLE COPY

Current GPS Position Variation Data Display

EXHIBIT E

BLD Current Position Variation Data
Through 2249 UT 17 February 2006
Average Position: 41.93378 N, -111.42085 E, 1968.8536 m





[SEC Home Page] [RIFS DAS Index] [GPS Page]
[Current Magnetometer H Data] [Current S4 Data]
[Current Magnetometer XYZ Data] [Current Ionogram]
[Cornell Position Data]

Copyright © 2002 Space Environment Corporation

BEST AVAILABLE COPY

EXHIBIT F

AIDJEX Wind, Current, and Camp Position Data

Access Data

During the summer of 1975 AIDJEX maintained four manned camps on ice floes in the Arctic Ocean. Instrumentation located at those camps, or deployed on floating data buoys, recorded surface and geostrophic winds, ocean current velocity at 2 and 30 meter depths, and camp (ice floe) position. Data are archived as daily average values for each camp, as well as ice velocity and smoothed positions. Surface pressure and geostrophic wind data are also available at 6-hourly intervals. Data acquired during the AIDJEX main experiment have been validated, for the most part, by the principal investigators and analysts. Data are available via ftp.

Data Citation

AIDJEX Program Office. *AIDJEX Wind, Current, and Camp Position Data.* Boulder, CO: National Snow and Ice Data Center/World Data Center for Glaciology. Digital media.

See Also

- Sea Ice Products at NSIDC
- User Services

NOAA catalog

Data Contributors

Parameters

- OCEAN CURRENTS > CURRENT VELOCITY
- SEA ICE MOTION > ICE VELOCITY
- SURFACE PRESSURE
- SURFACE WINDS > WIND SPEED/DIRECTION, GEOSTROPHIC WINDS, WIND SPEED/DIRECTION
- WIND-DRIVEN CIRCULATION

Instruments

- ACOUSTIC RADAR
- RADAR : RADIO DETECTION AND RANGING
- SONAR : SOUND NAVIGATION AND RANGING

The National Snow and Ice Data Center (NSIDC)
Supporting Cryospheric Research Since 1976
CIRES, 449 UCB University of Colorado Boulder, CO 80309-0449
NSIDC privacy policy | Use/Copyright Info

BEST AVAILABLE COPY

Discoverer Position Data

EXHIBIT G

Introduction

The position data provided here is known as "psu" data, which is at a time resolution of 15 minutes. The Discoverer Navigation Data archive has finer position resolution, if required.

Archive Information

Select the required date from the list below to view. Text files are approximately 12k in size.

File Contents Description

15 Mar	16 Mar	17 Mar	18 Mar	19 Mar	20 Mar	21 Mar	22 Mar	23 Mar	24 Mar
25 Mar	26 Mar	27 Mar	28 Mar	29 Mar	30 Mar	31 Mar	1 Apr	2 Apr	3 Apr
4 Apr	5 Apr	6 Apr	7 Apr	8 Apr	9 Apr	10 Apr	11 Apr		

Back to CSP Homepage

BEST AVAILABLE COPY

EXHIBIT H

Storming Media Pentagon Reports: Fast. Definitive. Complete.

Home About Us Contact Us View Cart My Account

username New Account » Forgot Password? Type your search term here

Ads by Google

$1200/Hr Jobs?
Apply Now And Make Up To $300 In the Next 15 Minutes!
MaximumPayJobs.com

We Make Custom Coins Fast
Free Dies, Free options & Free Art We have the fastest turn around!
www.CoinsForAnything.c

Fluid Flow Software
Calculate pressure, temperatures & flow rates in pipe networks
www.flowmaster.com

Us
Heritage Is Maryland's Premier Buick Dealer-Get Yours Now!
www.HeritageChevrolet-Buick.com

Advertise on this site

Aviation » Helicopters

Operation Heli-STAR - Aircraft Position Data. Volume 6

Authors: Michael Heiges; Shabnam Khan; Charles Stancil; GEORGIA TECH RESEARCH INST ATLANTA

Abstract: Operation Heli-STAR (Helicopter Short-Haul Transportation and Aviation Research) was established and operated in Atlanta, Georgia, during the period of the 1996 Centennial Olympic Games. Heli-STAR had three major thrusts: (1) the establishment and operation of a helicopter-based cargo transportation system, (2) the management of low-altitude air traffic in the airspace of an urban area, and (3) the collection and analysis of research and development data associated with items 1 and 2. Heli-STAR was a cooperative industry/government program that included parcel package shippers and couriers in the Atlanta area, the helicopter Industry, aviation electronics manufacturers, the Federal Aviation Administration (FAA), the National Aeronautics and Space Administration (NASA), and support contractors. S Several detailed reports have been produced as a result of Operation Heli-STAR. These include 4 reports on acoustic measurements and associated analyses, and reports on the Heli-STAR tracking data including the data processing and retrieval system, the Heli-STAR cargo simulation, and the community response system. In addition, NASA's Advanced General Aviation Transport Experiments (AGATE) program has produced a report describing the Atlanta Communications Experiment (ACE) which produced the avionics and ground equipment using automatic dependent surveillance-broadcast (ADS-B) technology. This latter report is restricted to organizations belonging to NASA's AGATE industry consortium. A complete list of the reports is shown on the following page.

☑ Adobe PDF - $8.95

☐ Printed Format - $32.95

Add to Cart

Please check the box for the format you wish to order.

Shipping Terms
About Electronic Delivery
E-Mail a colleague

BEST AVAILABLE COPY

Limitations:	APPROVED FOR PUBLIC RELEASE
Description:	Final rept
Pages:	83
Report Date:	SEP 1997
Report number:	A019073

Keywords relating to this report:

- ACOUSTIC MEASUREMENT
- AERIAL DELIVERY
- AIR TRAFFIC
- DATA LINKS
- HELICOPTERS
- HELIPORTS
- LOW ALTITUDE
- SHORT RANGE(DISTANCE)
- URBAN AREAS

Home | About Us | Contact Us | View Cart | Customer Service | Shipping Terms | Advanced Search | Privacy Policy

© 2001-6 Storming Media LLC. All rights reserved.

BEST AVAILABLE COPY

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help

Next List | Bottom | View Cart

Searching 1976 to present...

EXHIBIT I

Results of Search in 1976 to present db for:
"position data": 20730 patents.
Hits 1 through 50 out of 20730

Next 50 Hits

Jump To

Refine Search "position data"

	PAT. NO.	Title
1	7,000,196	Data item list display apparatus, data item list display method, and computer-readable recording medium recorded with data item list display program
2	7,000,136	Efficient variably-channelized SONET multiplexer and payload mapper
3	7,000,097	System and method for handling load and/or store operations in a superscalar microprocessor
4	7,000,094	Storing stack operands in registers
5	7,000,077	Device/host coordinated prefetching storage system
6	6,999,968	Fast merge into large ordered sets
7	6,999,875	Display method and apparatus for navigation system
8	6,999,871	Vehicle navigation system adapted to improved system upgrade procedure
9	6,999,835	Circuit-substrate working system and electronic-circuit fabricating process
10	6,999,779	Position information management system
11	6,999,759	Method and apparatus for providing deferrable data services in a cellular communication system
12	6,999,754	Car mounted information device
13	6,999,717	Limiting message diffusion between mobile devices
14	6,999,608	Imaging apparatus
15	6,999,544	Apparatus and method for oversampling with evenly spaced samples
16	6,999,395	Information storage medium, information recording apparatus, and information reproduction apparatus
17	6,999,266	Methods for WORF improvement

BEST AVAILABLE COPY

18 6,999,264 Methods for variable multi-pass servowriting and self-servowriting
19 6,999,259 Master disc and method of manufacturing the same
20 6,999,258 Time-based servopositioning systems
21 6,999,214 Apparatus and method for detecting holographic data reproduced from a holographic media
22 6,999,209 Electronic image registration for a scanner
23 6,999,090 Data processing apparatus, data processing method, information storing medium, and computer program
24 6,999,084 Method and apparatus for computer graphics animation utilizing element groups with associated motions
25 6,999,065 Linear touch input device
26 6,999,021 Method and apparatus for detecting, mapping and locating underground utilities
27 6,999,010 Table look-up method for abstract syntax notation encoding/decoding system
28 6,998,972 Driving workload estimation
29 6,998,892 Method and apparatus for accommodating delay variations among multiple signals
30 6,998,808 Positioning apparatus using brushless motor
31 6,997,870 Universal, programmable guide catheter
32 6,997,718 Infant simulator with floppy neck assembly having a full range of motion
33 6,997,477 Inflator
34 6,997,075 Motor vehicle with a gearbox and method for operating a motor vehicle
35 6,996,891 Method for the manufacture of a sensor element
36 6,996,668 Synchronized mirrored data in a data storage device
37 6,996,623 Reception display apparatus and method for displaying screen partially with certain timing even when all data for the screen has not been received, and computer-readable record medium recording such reception display program
38 6,996,566 Method and system for an object model with embedded metadata and mapping information
39 6,996,540 Systems for switch auctions utilizing risk position portfolios of a plurality of traders
40 6,996,503 System and method for take-off of materials using two-dimensional CAD interface
41 6,996,469 Method of route calculation and method of navigation
42 6,996,405 Terminal unit, position display method, information providing system, and information providing method
43 6,996,402 Rules based methods and apparatus for generating notification messages based on the proximity of electronic devices to one another
44 6,996,193 Timing error detection circuit, demodulation circuit and methods thereof
45 6,996,122 Method and apparatus for decoding
46 6,996,072 Method and apparatus for exchange of information in a communication network
47 6,995,942 Systems for WORF improvement
48 6,995,937 Methods using extended servo patterns with multi-pass servowriting and self-servowriting
49 6,995,882 Apparatus for recording optical information
50 6,995,832 Apparatus for forming pattern

BEST AVAILABLE COPY

Next List | Top | View Cart

Home | Quick | Advanced | Pat Num | Help

BEST AVAILABLE COPY